

NEW PROFITS in DELIVERING BUILDING MATERIALS

*The Report of a Nation-wide Survey of
Building Supply Dealers' Truck Operation*

- Planning better service and profits
- Improving the yard's present set-up
- Increasing each truck's daily output
- Organizing work for greater profits
- Buying trucks that increase profits

GENERAL MOTORS TRUCK COMPANY

HOW THIS REPORT WAS PREPARED

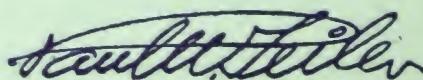
Realizing that the problems of economical truck operation differ sharply with individual users, and in particular with various lines of business, General Motors Truck Company has been placing increasing emphasis on study of the needs of individual truck owners. With this end in view, a nation-wide field survey has been undertaken—the most thorough and far-reaching study of actual truck operation and its relation to specific business problems that has yet been attempted.

Reports have already been issued covering the findings of that survey in Food Wholesaling, Coal Retailing, Parcel Delivery, Retail Food Delivery, Wholesale Baking, Oil and Gasoline Distribution, and General Commodity Wholesaling.

This Report summarizes the findings of an investigation into deliveries of building supplies and materials.

Statements and conclusions in this Report are based solely on facts. To get those facts, which never before have been assembled, trained investigators spent many months in close contact with building supply yards and houses. Scores of dealers, and all members of their organizations connected with delivery, were interviewed. Each operator's delivery problems and methods were analyzed thoroughly. In addition, investigators interviewed contractors, spent days of study on individual construction jobs, and rode hundreds of miles on building materials trucks. Every interesting variation in equipment and method of operation was recorded by photograph. The study was carried on throughout nine widely scattered states and provides a revealing cross-section of building material delivery problems in all sections of the country.

To the best of our knowledge, this Report constitutes the most thorough and reliable statement of sound truck operation in building material and supply delivery that has ever been issued. For that reason, we recommend it unhesitatingly for the careful consideration of every dealer in the building materials field.



President
General Motors Truck Company

GETTING BETTER SERVICE AND GREATER PROFITS

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HE building material and supply dealer of recent years has taken great forward strides in better, more aggressive management of his business. Competition for the consumer's dollar has been keen. For example, statistics show that more consumer dollars have been spent in the purchase of automobiles in the past five years than have been spent in the building or remodeling of homes. Radios, speculative investments, mechanical refrigerators, and other items have all been competing against the building material supply dealer's just claim for a fair share of the consumer's dollar.

Competition within the industry also has stimulated the independent dealer toward more aggressive activity. Ready-built homes and mail-order competition have multiplied their sales many times over. Moreover, these competitors are now establishing definite relationships with the local contractor and carpenter whose influence is always a large factor in determining what dealer will eventually receive the consumer's building dollar.

As a result, recent years have seen successful supply dealers of all types making special efforts along two equally important lines:

(1) more aggressive selling or merchandising effort; and (2) systematic effort to reduce costs of doing business.

Truck Operation Vital to Both Activities

The survey which preceded the writing of this Report brought out a number of facts in connection with these two types of aggressive activity. The most significant facts are these:

- Prompt, reliable delivery of materials to the job is a vitally important item in winning and holding the good-will of both the contractor and consumer customer.
- The largest single item of expense in the majority of building material supply yards is the item of truck operation or delivery service. *In the average yard, truck expense constitutes 30% to 50% of the total cost of doing business.*

Each of these facts points clearly and unmistakably to the need for sound truck operation in the building and supply yard. Winning and holding customers means deliveries must be prompt and reliable; and profitable management demands constant watchfulness over truck costs.

The purpose of this Report is to point out the methods that successful dealers are using to provide better delivery service and, at the same time, reduce truck operating costs.

TRUCK EXPENSE IS IMPORTANT

For every dollar of net profit cleared in a typical building material supply concern during 1930, approximately

50¢	were spent for insurance, taxes and rent
60¢	were spent for office expense, depreciation, and repairs
\$1 + \$1 + 67¢	were spent for wages of yard employees
\$1 + \$1 + 90¢	were spent for office and executive salaries
\$1 + \$1 + \$1 + \$1 + 33¢	WERE SPENT FOR TRUCKS and DRIVERS

The building material supply dealer's greatest opportunity for lowering his cost of doing business lies in better truck management.

BETTER MANAGEMENT IS NEEDED

At first glance, it may seem that improved service and lowered costs in truck operation are two directly contrasting goals. All too often, the operator of trucks thinks of improved service as demanding a greater outlay for trucks. And conversely, he believes that economies in operation can only be accomplished at the expense of good delivery service.

HOW BETTER MANAGEMENT LOWERS COST PER TON			
One Month's Operation	Truck A*	Truck B	Truck A's Advantage
No. of working hours.....	205	92.5	112.5
No. of trips per month.....	150	50	100
Total mileage..	950	350	600
Total tons hauled.....	450	150	300
Total operation cost.....	\$301.50	\$252.25
Cost per mile...	\$.317	\$.7207	\$.4037
Cost per ton....	\$.67	\$1.68	\$1.002

*Truck A, working a greater number of hours daily, delivering a greater number of loads of materials, operated at a saving of \$1.002 per ton over Truck B.



that seem to get deliveries out most satisfactorily. Those trucks run up a great deal of mileage in the course of a year, and the operating expense is high. But they also produce a great deal of work, and the cost per ton delivered is low.

Other trucks are left standing idle. In dull periods, they are used only for special, rush deliveries—often less than full loads. The result is high cost per ton of materials moved.

The accompanying illustration, for example, shows the record of two three-ton trucks in one dealer's service. Notice that the dollars and cents operating cost of Truck A is high. But its hours of work and tons of materials moved are also high, and the result is lower cost of operation.

Putting the delivery fleet operation on a sound basis—whether the dealer owns one truck or a hundred trucks—means putting the entire fleet as nearly as possible on the basis of the one or two trucks which accomplish the most work. Of course, it is not possible to keep every truck busy all of the time in the average yard. But sound management aimed at profitable operation means every dealer should be constantly alert to these three needs:

- 1 Better use of time
- 2 Better planning of deliveries
- 3 More thorough planning of truck purchases

Facts uncovered during this survey point clearly to an opposite conclusion. To be sure, any dealer can insure against delayed deliveries by purchasing more trucks, so that extra equipment is always on hand for the rush delivery. And any dealer can economize by the simple solution of getting rid of some of his trucks and taking a chance on being "caught short" when the contractor wants materials. But during this survey it was almost always found that dealers whose service was notably prompt and effective were the same dealers whose cost per ton for delivery was lowest. And those dealers provided good service at low cost simply by watchful, effective truck management.

Lower costs and better service go hand in hand when trucks are managed soundly.

Three Simple Fundamentals

Perhaps the easiest way to illustrate the difference between profitable truck management and costly truck management is to take a very common type of situation found in the average building material yard. One or two trucks, in the average yard, are kept at work a large part of the time. They are usually the relatively new trucks that drivers like to use and

they seem to get deliveries out most satisfactorily. Those trucks run up a great deal of

mileage in the course of a year, and the operating expense is high. But they also produce a

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PLANNING FOR PROFITABLE USE OF TIME

Time is the building material dealer's stock in trade. Every day he is made conscious of the fact that *timely deliveries* are vital, especially on the large construction job where delivery of materials must be made when they are needed—not before or after.

The dealer is always alert to meet this demand satisfactorily, for good-will of the contractor and consumer customer depend to a large extent on the timeliness of deliveries.

But there is another and even more important way in which time affects the building material dealer's profits. Idle time and lost time in truck operation are costly. Fixed expenses—depreciation, interest, taxes, license cost, insurance, and garage rent—must be paid whether or not the truck is at work. And every minute that the truck is not at work, these fixed expenses are increasing the cost of delivery for the dealer.

It is not possible for the dealer to keep all his trucks operating every hour of the day and every day of the year. Seasonal fluctuations in volume cause enforced idleness for at least a part of the year. Needed repairs force equipment to be idle. Some delays are always to be expected even on busy days. But that does not alter the fact that every saving of time, every reduction of delays, every added minute of work during both busy and dull seasons means more profitable and less costly deliveries of materials.

The most profitable truck is the one that is moving a profitable load a maximum number of hours of each working day.

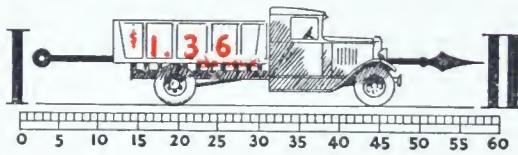
THE COST OF LOST TIME

Following are annual fixed costs on a typical 3-ton building supply truck:

Interest on Investment.....	\$195.00
Depreciation (20%).....	812.50
Taxes.....	48.75
License.....	55.00
Insurance.....	150.00
Garage Rent.....	120.00
Salary of Driver.....	2,100.00
<hr/>	
TOTAL FIXED COSTS.....	\$3,481.25

Fixed costs per day..... \$11.60
(300 working days)

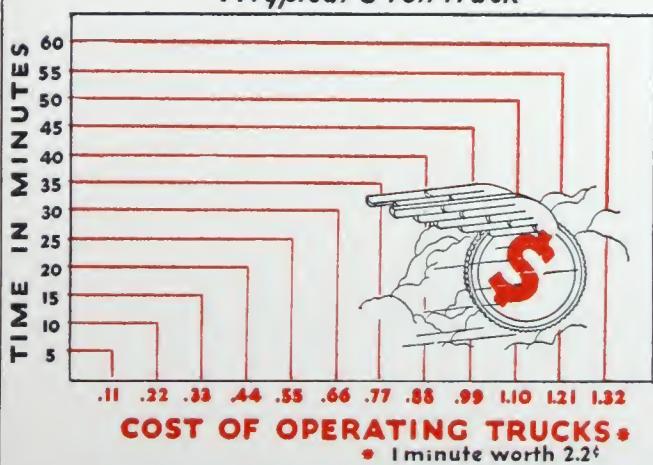
Fixed costs per hour..... \$1.36
(8½-hour working day)



During the investigation on which this Report is based, it was found that these important

LOST TIME COSTS MOUNT FAST

A typical 3-ton truck



During the investigation on which this Report is based, it was found that these important time losses usually occur at four places:

- 1 In the yard
- 2 At the dispatch office

Small Losses the Most Important

The most important fact for the dealer to keep in mind is that relatively small time losses are the most costly in the average operation. A half hour lost here, five minutes lost there, and fifteen minutes lost somewhere else—these losses mount into a staggering total. Those are the losses which delay deliveries and disrupt service on busy days. And those are the losses which are costly because trucks are not producing profitable work.

Enforced idleness during dull business periods is costly. How to reduce those losses will be discussed later in this Report. But the dealer's first aim should be to eliminate the smaller losses which disrupt service and eat up dollars day in and day out.

During the investigation on which this Report is based, it was found that these important

- 3 At the point of delivery
- 4 In the repair shop

SAVING TIME IN THE YARD

In a typical building material supply yard in the East, an investigator timed the operations in the yard which involved maneuvering and loading trucks. The record at the right is significant. The five trucks at work that day lost a total of 5 hours and 34 minutes in the yard—or more than two-thirds of a working day for one truck and driver.

Four Points to Watch in the Yard

In gathering data for this Survey Report, it was found that the most efficient yards, like modern factories, have "straight-line production." The yard layout is designed to further the forward movement of trucks without unnecessary turning, backing, or congestion. It is not the intention of this Report to describe the "ideal" yard, for a yard's layout is dependent on numerous factors that vary greatly for each operator. But in general, certain features were found common to most good yards:

- 1 Storage space was laid out to provide free access in lanes which required no extra backing, turning, or maneuvering for position.
- 2 Fast moving items were placed at the most accessible points where a minimum of time would be lost in loading and moving in and out.
- 3 Ample space was provided at or near fast moving items so that waiting trucks would not cause congested lanes.
- 4 Conveyors, cranes, scoops, hoppers, and other automatic loading devices were used at every point where combined saving of labor and truck time made such devices a profitable investment.
- 5 Ample entrance and exit space was provided to prevent congestion and delay for both in-bound and out-bound traffic.
- 6 Tool houses, shops, and other facilities not demanding easy access by trucks were located only on "dead spots"—thereby saving all available live space, or lane space, for storage of materials to be loaded and delivered.
- 7 Where accurate loads of bulk materials were commonly required, measuring bins or hoppers were provided to eliminate the need for back-tracking, or turning around at the scale to complete the load.
- 8 Ample, accessible loading space was provided at loading platforms where cement and other protected materials were warehoused.

TYPICAL TIME LOSSES IN THE YARD

This is the record of time losses for one day in a yard in the East.

Truck No.	Time Lost per Trip (in minutes)						
	1	2	3	4	5	6	7
1	8	11	3	4	16
2	24	6	1	0	13	18	2
3	14	3	2	36	8	4	1
4	26	5	18
5	63	8	14	4	22
Totals	135	33	38	44	59	22	3

Only delays and idle time that could have been avoided were recorded. Yet, a grand total of 5 hours and 34 minutes was lost in this yard.

Overcoming Penalties of Poor Yard Layout

At first glance, the building material dealer may feel that providing the type of satisfactory yard layout indicated on the foregoing page is likely to be a costly affair. And it may be if the dealer simply orders alterations indiscriminately. But sweeping alteration is seldom necessary. Indeed, it is noteworthy that the main storage facilities in the average yard are well located. When the dealer invests in permanent, modern bins, silos, and other storage facilities, his investment is large enough to demand careful thought as to their most satisfactory location.

On the other hand, it is the old wooden bin, the shed that is about to fall down, the abandoned tools and implements, the piles of spoiled materials or debris, and so on, which cause delays and congestion in the average yard. In some yards, trucks were forced to back and turn on each trip because of objects which were better removed from the yard than kept there.

The important point is that the dealer should study his own yard arrangement. A watch, a pencil and paper, and an hour or two a day for a day or two are all that are required to determine where trucks are losing time in the yard. And with that information at hand, the dealer can easily determine whether or not alterations made in the interest of saving truck time will be profitable. That changes are frequently profitable is shown by the following illustrations:

- A busy materials yard with a fleet of 15 trucks had an awkward entrance arrangement, further complicated by the location of the scale. The time lost per round trip averaged $1\frac{1}{2}$ minutes. Merely by using the existing gate as an exit, and making another entrance, the difficulty was easily overcome. With each truck in the fleet averaging 9 trips a day, and truck time valued at \$1.35 an hour, the savings to the operator were \$4.55 a day—or for a year of 300 working days, \$1,365. And the alteration expense had been only \$94, leaving a net profit of \$1,271.
- In a small yard, shoveling sand on by hand required 15 minutes an average load. A change was made to loading by portable conveyor. The net saving amounted to 13 minutes per load. With 7 trucks averaging 8 trips a day, that meant a saving of 728 minutes. The operator was able to release an old truck whose upkeep with driver hire had been \$3,124 a year. That saving more than paid for his new equipment, and left him a good net profit.
- A dealer handling a relatively large volume of business had a cement shed that accommodated only one truck at a time at the loading platform. That meant that, whenever cement orders were heavy, a second truck had to wait while the first was loaded—a 25-minute loss. The platform was remodeled and extended to accommodate three trucks. At the end of the year, the dealer figured that the time savings not only paid for the alteration, but in addition gave him \$425 extra profit.

Another Reason for Improving YARD LAYOUT

Truck savings easily obtainable through improvements in yard layout and equipment often equal or exceed the profit to be derived from a sizable increase in business.

**ADDITIONAL
BUSINESS**
*- acquired at
considerable
extra effort*

PROFIT

TRUCK SAVINGS
easily achieved

It will pay the dealer to study his own yard for economies of layout and improvement in equipment. They frequently pay for themselves many times over.

PLANNING DISPATCH TO SAVE TRUCK TIME

Perhaps the greatest single source of lost truck time, especially in smaller yards, is the time lost at the dispatcher's office. In most yards, the procedure for handling dispatch is as follows:

Delivery to: Name <u>Murray & Hill</u> Address <u>1838 Davis Street</u> Phone <u>Regent 0327</u>		Time Received Credit <u>Dec 5 - 7:15 AM Cash</u>
MATERIALS <u>10 yds sand</u> <u>Nicholson home</u>		WANTED <u>first load</u> <u>9 sharp</u>
Loaded by: <u>Oscar</u>	For driver: <u>Harry</u>	

- The driver parks his truck and enters the dispatcher's office for loading instructions.
- He loads his truck.
- He returns to the scale for weighing (on materials ordered or charged by weight).
- He enters the office again to receive delivery instructions and tickets.

If errors are made, either in the loading instructions or delivery instructions, they almost always mean time

lost and extra running for the truck. Moreover, each trip to the office for instructions means idle time for the truck. And it is simply amazing, in the average yard, to see how freely and thoughtlessly drivers waste time in pleasant but costly conversation at the office.

Providing better dispatch methods, therefore, usually means the dealer should aim at two goals:

- 1 Simple but adequate instruction forms for loading and delivery
- 2 A time-saving method of handling the instructions

Use Simple but Clear Instructions

Penciled scrawls on scratch pads are not a satisfactory means of recording orders. Nor is it practical, in most cases, to have a complex form for delivery instructions or orders. The simplest and, in many cases, the most practical means of recording orders involves two types of forms: (1) a telephone record slip, which acts also as a loading instruction slip for the driver; and (2) a compact invoice form.

Such a telephone record form is reproduced above, and a good example of an invoice form is shown on the opposite page. These are the advantages dealers have found in using this system:

- The phone order slip is made out in duplicate, the original going to the driver as a loading instruction slip. Thus errors—which are common when loading instructions are issued verbally—are avoided. Errors waste truck time and mileage.
- The driver carries his loading instructions with him and can check his load after it is placed on the truck.
- With the duplicate phone order slip as a record for the dispatcher, the invoice can be written up and credit can be checked while the driver is loading, thus avoiding delay for the truck while the order is being written up.
- Time stamping of the invoice form impresses drivers with the fact that they are on schedules.

In addition to these advantages in saving time for trucks, this simple system has many other advantages in making office records, accounts, and permanent files more accurate. The point to be emphasized here, however, is that the dispatcher should be equipped with order forms which avoid time losses in dispatch and which prevent errors both on his part and on the part of his drivers.

Time-Saving Methods for Handling Instructions

When the dealer has provided his dispatcher with simple, error-preventing forms, his next step should be to eliminate all time losses in the actual use of those forms. When drivers must park their trucks, enter the dispatch office, receive instructions, go after the load, and return to the office for the invoice and delivery instructions on each trip, much time is likely to be wasted for both trucks and drivers.

With clear written instructions available, there is seldom need for the driver to enter the office for additional verbal instructions. The phone order slip, which acts as the driver's loading instructions, can simply be handed to the driver as he enters the yard, and he can exchange the loading ticket for the delivery ticket as he leaves the yard. In every case, provision should be made for handling these tickets with a minimum of delay for the truck and driver. Here are some common solutions:

- In many yards, a small opening is provided at the dispatcher's window for passing tickets to drivers as they enter and leave the yard. Drivers are forbidden to enter the dispatch office unless asked to do so by the dispatcher.
- In one yard, a row of boxes is provided at the side of the dispatch office, one box for each driver. The boxes open both from the inside and outside. Instructions are placed in each driver's box as they are completed and are taken by the driver as he enters the yard.
- When orders are for items which must be selected—as is the case with mill-work and similar items—instructions should be sent direct to the yard foreman so that loads will be assembled when the truck arrives.
- In many large yards, all instructions are sent to a yard office by messenger or tube. Loading is then scheduled by the yard foreman or an assistant to prevent delays in loading. Drivers get instructions at the yard office, thus preventing congestion at the scale where the dispatcher gives the load its final check and issues instructions.

Time lost in dispatch operations is costly time; it ties up drivers and costly truck equipment. Efforts to eliminate those time losses will be well repaid.

		CENTRAL BUILDING MATERIALS COMPANY		No. 36841
		Retail	12 Fulton Street	Wholesale
		Phones: Delaware 6789-90-91		
		TERMS: 2% 10 days; 30 days net. We reserve right to charge interest on past due accounts. Any lumber returned in good condition to be credited at invoice price less \$8 per M for labor and carriage.		
		DELIVER TO:	JOB DATA	
		Customer <u>Murray T Hill</u>	Nicholson home	
		Address <u>1838 Davis Street</u>		
		Phone.		
		Quantity	MATERIALS	
		10 yds	<u>Sand @ 2.50</u>	
			<u>① 10, 025 lbs</u>	
			<u>② 10, 012 lbs</u>	
			<u>③ 10, 039 lbs</u>	
			<u>25 00</u>	
		RECEIVED BY: <u>T. V. Nesbit</u>	TRUCK OUT DEC. 10-8:15 A	
		Please give personal, not firm name		
		DRIVER: <u>Harry Hause</u>	TRUCK BACK DEC. 10-9:30 A	
		Please report any delay in delivery or en route, stating time in minutes and cause on other side of this ticket.	If more than one delivery on same order complete time stamping on back of this ticket.	
PERMANENT RECORD		1	2	3
INVOICE		3	CUSTOMER'S COPY	1
OFFICE COPY		1		

SAVING TIME AT THE DELIVERY POINT

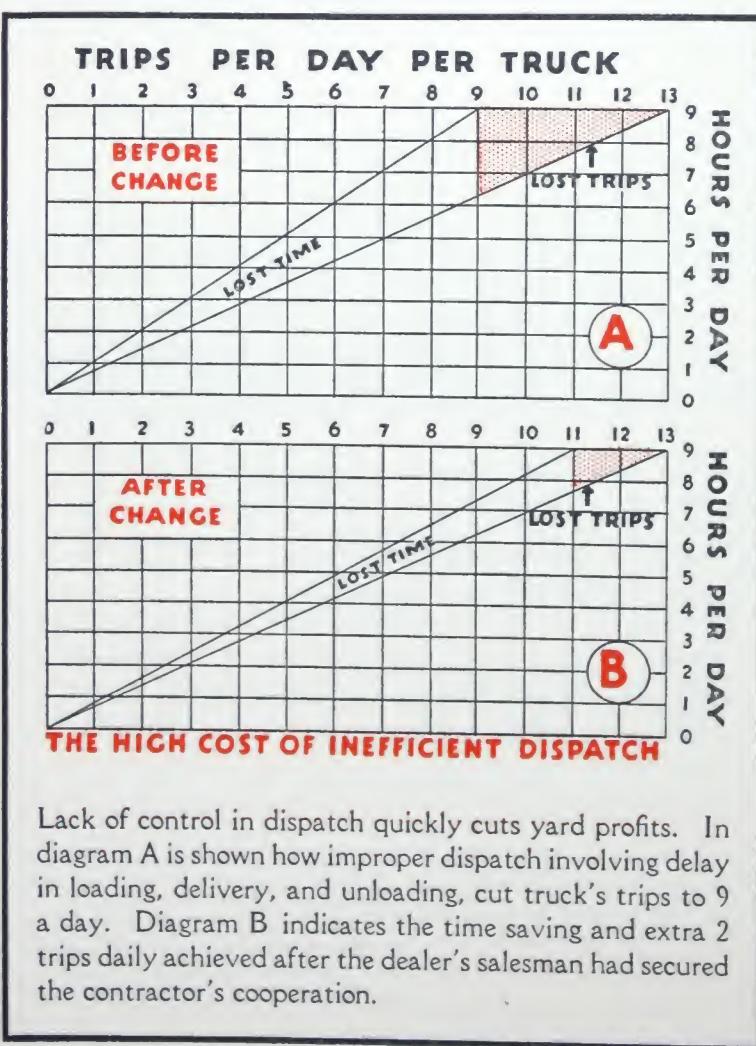
Time lost at the point of delivery is just as costly as time lost at the dealer's yard. But delays at the point of delivery are not always so easy to eliminate. Usually, they arise from one of three causes:

- 1 Unsatisfactory conditions for receiving materials on the job
- 2 Lack of cooperation on the part of the contractor
- 3 Over-servicing the job

There are a great many jobs on which limited space for handling and storing materials creates difficulties for the dealer's trucks. Jobs located off of paved roads are likely to cause trouble. In addition, the contractor can make it doubly difficult to deliver loads quickly and satisfactorily by demanding that trucks wait for unloading at a specific point; by carelessly permitting stored materials, tool houses, and other objects to be placed so that they constantly obstruct and slow down incoming materials; and by ordering too far in advance and then insisting that materials be dumped or unloaded only as they are needed.

Some Helpful Solutions

It is not always possible, of course, to avoid all of these difficulties on every job. Building in congested areas places a premium on space that makes frequent waiting necessary. The contractor cannot control the location of the job. But the building material dealer should endeavor to reduce losses from these sources, whenever possible, by taking one or more of the following steps:



Lack of control in dispatch quickly cuts yard profits. In diagram A is shown how improper dispatch involving delay in loading, delivery, and unloading, cut truck's trips to 9 a day. Diagram B indicates the time saving and extra 2 trips daily achieved after the dealer's salesman had secured the contractor's cooperation.

- On all large jobs, the dealer's salesman or some one else from the dealer's establishment should be required to study the job and set up a plan covering suitable arrangement for unloading and storing all materials to be delivered.
- A salesman or supervisor should be assigned to get the contractor's approval of this plan with any changes or corrections he feels are needed.
- When frequent deliveries are being made to the large job, a salesman or supervisor should visit the job at regular intervals with a view to checking up and eliminating any delays in handling loads at the point of delivery.
- If the dealer's trucks are required to wait in turn with other supplier's trucks for unloading on large jobs, the dealer's supervisor or salesman should see to it that his trucks get fair play at cranes, conveyors, pits, or other unloading points.

Servicing the Job Adequately

Perhaps the most costly type of delay at the point of delivery occurs when the dealer over-services the job with too many trucks. When that is the case, trucks are almost always delayed because of congestion at the unloading point, and frequently extra truck mileage is run up because loads or parts of loads must be returned for later delivery.

There are two common reasons why jobs are sometimes over-serviced on deliveries:

- First, the contractor may become angered at a slight delay or be worried about progress on a job and demand faster delivery than is needed.
- Second, materials which are used in large quantities and over relatively long periods — such as sand, gravel, cement, and brick on the large job — may be delivered too rapidly because the dealer or his men over-estimate the capacity of the mixer or the crew on the job.

In both cases, the best answer to preventing over-service on the job is for the dealer, or a competent salesman or supervisor, to visit the job and study the truck operation. If such supervision is provided, there will be little excuse for the dispatcher to become panic-stricken and send out extra trucks when a "hard-boiled" contractor calls. For the man who contacts the job should keep in touch with the dispatcher and provide him with a clear picture of the material needs. The dispatcher who has a fair knowledge of the situation on the job will be able to deal more effectively with the contractor and get him to limit his demands to more reasonable terms.

The building material dealer will find it sound economy to have one man in his organization well trained in studying and estimating delivery plans and needs on the job. In smaller yards, or on small jobs, this man may well be a thoroughly trained driver. In other yards, a truck supervisor may handle this important work. And in still others, the job of carrying on such contact and supervision may be up to the salesman who sold the job. In any event, such contact almost always pays for itself, both on the small job where little contact is needed and on the large job where much contact is needed.

Proper supervision and contact on the job saves costly truck time, assures better cooperation with the contractor or his superintendent, and helps to sell the contractor on future purchases from the dealer.

FIGURING TRUCK SUPPLY FROM THE MIXER'S DEMANDS

On a building construction job the dispatcher found that the mixer would turn out 40 batches an hour of a modified 1-2-4 mix, requiring $5\frac{3}{4}$ bags cement, 1300 lbs. sand and 2300 lbs. gravel.

Therefore, figuring the day's (9 hours) truck requirements became simple arithmetic:

$$\begin{aligned} 5\frac{3}{4} \times 40 \times 9 & \dots \dots \dots 2070 \text{ bags cement} \\ 1300 \times 40 \times 9 & \dots \dots \dots 234 \text{ tons sand} \\ 2300 \times 40 \times 9 & \dots \dots \dots 414 \text{ tons gravel.} \end{aligned}$$

The distance from the yard to the job was 2.3 miles. The time of the first two 5-ton trucks sent out averaged 25 minutes for the round trip. In other words, 1 truck could make 21 trips a day, with 15 minutes to spare.

From the schedule it was easy to compute the following:

- 2 trucks were required to haul sand
- 4 trucks were required to haul gravel
- 1 truck was required as a reserve to alternate between sand and gravel
- 2 cement trucks were required which could deliver 200 bags each trip.

Figuring truck supply accurately saves the yard money, by eliminating truck waiting time and cutting to a minimum the number of trucks required on the job.

SAVING TIME AND MONEY IN THE SHOP

When trucks break down or must go to the shop for repairs, the building material dealer is likely to face at least three distinct types of losses:

- Loss of time for the equipment while in the shop
- Loss from costly repairs
- Loss from impaired service and delayed deliveries to customers

In the average building material yard, these losses are far too great. Some repairs are to be expected. Trips to the shop for maintenance are desirable. But careful, systematic effort along these three important lines will help to reduce costly time in the shop to a minimum:

1 Driver training 2 Preventive maintenance 3 Correct loading

Training the Driver

By far the most important factor in keeping the truck out of the shop is the driver who operates the truck. He can "make" the poorest truck or "break" the best truck in a relatively short time. Which of these two the driver will do is dependent largely on the dealer—and not on the driver. It does little good to bawl out a driver after the harm is done to a truck. On the other hand, the dealer who takes systematic steps to prevent troubles—by telling drivers how to handle their job and offering drivers some incentive for handling it well—will find that results are easy to obtain.

The average driver reacts to his truck in a very definite way. He may curse it or praise it, depending on the situation. But no matter which he does, his interest in his truck can be turned to good advantage for the dealer if proper training and incentives for good driving are used to capitalize that interest. The dealer should not expect to get 100% drivers by simply hiring experienced men, any more than he expects to get a perfect bookkeeper who knows the ins and outs of his business by simply hiring a journeyman bookkeeper. The driver must be told what to do and be encouraged to do it right.

A midwestern dealer has combined a training program and bonus plan in a very effective way. It is reproduced on this page. The noteworthy points of this plan are that it is simple and that it is fair. Bonus deductions are made only for failure to carry out specific instructions given the driver during his training period. The simpler the bonus plan and the more closely it is based on points with which the driver knows he should be familiar, the less likelihood there is of disputes and dissatisfaction, which destroy the real purpose of the plan —100% driver cooperation.

A COORDINATED TRAINING AND BONUS PLAN

The driver is given thorough training in each of the following:

- Accident prevention
- Safe, legal driving
- Care of the truck
- Reporting troubles and accidents
- Correct loading and unloading
- Dealing with customers
- Handling tickets and reports
- Yard rules and regulations
- Getting work done

A flat bonus of \$15 a month is offered with deductions as follows:

Accidents caused by driver.....	\$2.50
Violation of safety rules.....	.2.00
Repairs caused by abuse of truck.....	.2.00
Failure to report troubles and accidents.....	.1.00
Improper handling in loading and unloading	.50
Complaints caused by driver.....	.50
Errors on tickets and reports.....	.25
Violation of yard rules.....	.25
Stalling on the job.....	.50

Drivers are permitted to appeal disputes to a committee composed of the yard superintendent, the dispatcher, and one other driver

ESTABLISHING A SOUND MAINTENANCE PROGRAM

A good driver training program is only the first essential in preventing costly loss of time in the shop. Any machinery must be handled properly; but more than that, it must be serviced properly if it is to give long life with freedom from excessive repairs. The second method of eliminating costly shop time, therefore, is to establish a workable system of preventive maintenance. Such a system involves two important steps:

- A simple, definite schedule for maintenance work
- Close supervision to see that scheduled operations are carried out.

The basis of most satisfactory maintenance systems is the driver's daily truck report. The driver is with the truck every day. He knows it from stem to stern. He detects troubles as they arise. If he is provided with a means of reporting troubles and is encouraged to report them, much can be done to prevent major repair expenses. Moreover, keeping satisfactory maintenance schedules means keeping accurate account of mileage. And if the driver is required to report his mileage each day, he is also the logical one to keep track of maintenance schedules. A simple and effective system for getting regular maintenance is

shown on this page. It is a system which, in one form or another, is used by many building material dealers and also by truck operators in other fields. These are the steps to take in establishing the system:

DAILY REPORT CARD	
Truck No. <u>36</u>	Date <u>3/3/31</u>
Driver, <u>Cecilah</u>	
INSTRUCTIONS TO DRIVER	
Check tire inflation daily Take truck to garage for: Battery inspection <input checked="" type="checkbox"/> Oil change <input type="checkbox"/> Oiling and greasing <input type="checkbox"/> Mechanical inspection <input type="checkbox"/> Washing <input type="checkbox"/> Repairs shown on Shop Order # <u>12</u> <input checked="" type="checkbox"/>	
Put an X beside any of the above instructions you failed to carry out this morning.	
DRIVER'S REPORT FOR TODAY	
Speedometer: Out <u>27,062</u> In <u>27,136</u> Gas: put in <u>15</u> gallons Oil: put in <u>3</u> quarts Engine Okay? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Anything loose on truck? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Brakes Okay? <input type="checkbox"/> Yes <input type="checkbox"/> No Dump Mechanism Okay? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
X Truck should go to shop for: <u>fix tail gate</u> <u>to be handled this P.M.</u>	

TRUCK No. <u>6</u>		YEAR 1930			
Standard requirements: Change oil every <u>500</u> miles Oil and grease every <u>3,000</u> miles Mech. inspection every <u>2,000</u> miles					
Schedule for January		Schedule for February		Schedule for March	
Check Battery 1st	Work Done <u>1/2</u>	Check Battery 1st	Work Done <u>2/3</u>	Check Battery 1st	Work Done <u>3/1</u>
15th	<u>1/6</u>	15th	<u>2/15</u>	15th	<u>3/17</u>
Change Oil at <u>3/1000</u>	Done at <u>3/1, 027</u>	Change Oil at <u>32,060</u>	Done at <u>32, 112</u>	Change Oil at <u>32, 690</u>	Done at <u>33, 6FD</u>
Next due <u>31, 527</u>	Done at <u>31, 560</u>	Next due <u>32, 612</u>	Done at <u>32, 570</u>	Next due <u>34, 180</u>	Done at <u>34, 175</u>
Next due <u>32, 060</u>	Done at <u>—</u>	Next due <u>33, 190</u>	Done at <u>—</u>	Next due <u>34, 675</u>	Done at <u>35, 102</u>
Oil and Grease Chassis at <u>32, 060</u>	Done at <u>31, 240</u>	Oil and Grease Chassis at <u>34, 060</u>	Done at <u>34, 050</u>	Oil and Grease Chassis at <u>36, 050</u>	Done at <u>36, 040</u>
Next due <u>33, 300</u>	Done at <u>—</u>	Next due <u>36, 050</u>	Done at <u>—</u>	Next due <u>38, 040</u>	Done at <u>38, 030</u>
Mechanical Inspection at <u>32, 060</u>	Done at <u>32, 060</u>	Mechanical Inspection at <u>34, 060</u>	Done at <u>34, 060</u>	Mechanical Inspection at <u>36, 060</u>	Done at <u>35, 9FO</u>
Next due <u>34, 060</u>	Done at <u>—</u>	Next due <u>36, 060</u>	Done at <u>—</u>	Next due <u>37, 9FO</u>	Done at <u>37, 5FO</u>
Wash Ordered <u>1/2</u> <u>1/10</u> <u>1/22</u>	Done <u>1/4</u> <u>1/10</u> <u>1/22</u>	Wash Ordered <u>2/1</u> <u>2/15</u>	Done <u>2/2</u> <u>2/16</u>	Wash Ordered <u>3/2</u> <u>3/15</u>	Done <u>3/3</u> <u>3/17</u>
Repair Item # <u>1234</u> <u>1247</u> <u>1258</u>	Done <u>1/3</u> <u>1/2</u> <u>1/18</u>	Repair Item # <u>1272</u> <u>1279</u>	Done <u>2/1</u> <u>2/5</u>	Repair Item # <u>1302</u> <u>1324</u> <u>1333</u>	Done <u>3/2</u> <u>3/2</u> <u>3/29</u>

- 1 Consult the manufacturer's service guide on each truck operated and find out at what intervals each important maintenance operation should be attended to—changing crankcase oil, oiling and greasing chassis points, mechanical inspection, battery test, etc.
- 2 Set up an office chart like the one reproduced at the upper right-hand side of this page and fill in the standard requirements for the truck in question. Have this chart posted in the office or drivers' quarters. Have the dispatcher or someone else take charge of it and see that it is up-to-date.
- 3 Have a simple driver's report which requires as little writing as possible. The form shown at the left is a typical one. Require drivers to fill out the report daily.
- 4 Instruct either the drivers or the person in charge of the office chart to check daily truck reports against the office chart and see to it that trucks are serviced.
- 5 Set up an inspection list, such as is shown on the following page, to guide the garage foreman or mechanic in making thorough mechanical inspection at stated intervals.

Many building material dealers seem to think that setting up and operating such a maintenance system is a difficult job. It is not difficult once it is tried. And it has several advantages: (1) It impresses the driver with the fact that care of the truck is considered of first importance; (2) it saves many dollars in operating expense by preventing troubles before they arise; (3) it helps to catch minor troubles before they develop into major repair items.

GUIDE TO MAINTENANCE PRACTICE

Correct maintenance depends on the mutual cooperation of the office, the driver, and the shop. The specific duties of each are outlined on this page. Check yourself and your personnel by answering the following questions. Vote "Yes" only when you know specifically that the point covered is being fully handled. Then make a revision of your present system, adding whatever points you have found to be needed. Periodic reviews of this chart are valuable in keeping maintenance up to par.

OFFICE RESPONSIBILITY



<ol style="list-style-type: none"> 1 Do you require individuals in charge of maintenance to read and know the manufacturer's service manual for each truck? 2 Do you assign definite schedules for maintenance? 3 Are mileage schedules for maintenance carefully and systematically recorded in order to keep schedules on each truck? 4 Do you maintain a specific check-up system to know that all work is being carried out properly? Are the men in charge competent, reliable? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
--	--

DRIVER RESPONSIBILITY

<ol style="list-style-type: none"> 1 Does the driver report the truck's condition each day? 2 Are minor repair needs reported promptly? 3 Does driver check and correct tire inflation daily? 4 Does the driver keep an accurate record of his gas and oil consumption? 5 If the driver is responsible for maintenance, is his work checked regularly? 6 Does the driver understand oiling, greasing, and battery check-up schedules so that he can cooperate properly in caring for the truck? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
---	--



SHOP RESPONSIBILITY



Upon thorough-going routine inspection of trucks depends the success of the operator in maintaining efficient, mechanically perfect trucks. Make sure that inspection shows a positive check on the following:

Check:	OK	No	Check:	OK	No	Check:	OK	No
Engine for idling			Speedometer cable			Oil and grease leaks		
Engine bolts, mounting			Drive shaft, rear axle			Front wheel action		
Bearings for sound			Universal joints			Tire tread and wear		
Radiator			Front wheel spindles			Power take-off if equipped with hoist		
Breaker points			Fenders			Hoist Mechanism		
Spark plugs			Springs			Riveted and welded parts		
Valve tappets			Brakes: adjust; reline			Attachment to chassis		
Generator brushes						Operation of tailgate		
Compression						Condition of bed, especially floor irons and rollers		
Fuel system						All joints and fittings		
Fan and water pump						Windshield, doors		
Magneto bearings						Door hinges and handles		
Generator bearings						Seat, cushions		
Battery charge						Windshield wiper		
Terminals and wiring								
Clutch action								
Steering gear								
Fuses, lights, signals								
Dash instruments								



AVOIDING COSTLY BREAKDOWNS

If drivers are properly trained and an effective maintenance program has been installed, the building material dealer may be fairly certain that he has taken out strong insurance against excessive repair losses. But road breakdowns which delay service, tie up deliveries, and usually involve expensive road and shop repair costs are quite often the result of neglect of another type of insurance—correct loading.



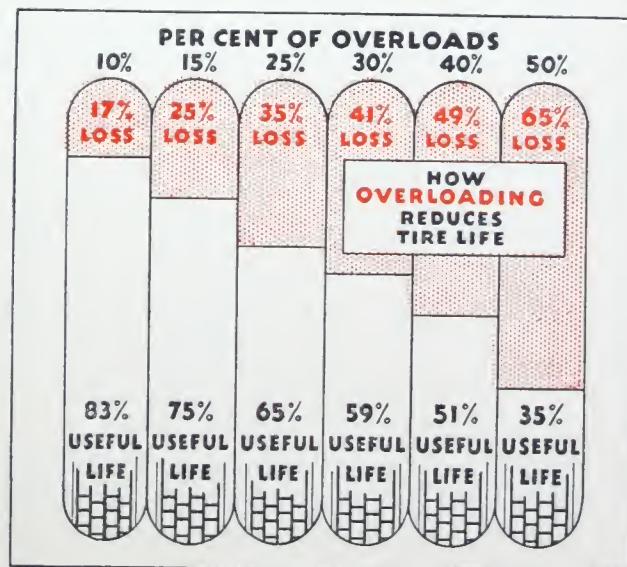
It is entirely possible to overload trucks. Sometimes the operator can go along for many months carrying more than a reasonable overload and apparently his truck shows no ill effects. At the same time, his books may show fair profits on the truck because it is carrying more than its rated capacity. But the fact remains that study of scores of repair records during this survey showed that building material dealers as a whole are paying a heavy penalty for the practice of overloading.

Let us repeat: overloading is entirely possible. A truck will carry an overload because it is designed with a factor of safety over and above its rated capacity. But that factor of safety is simply the minimum insurance that the engineer and designer knows the operator will need under normal operating conditions.

The operator who overloads his trucks is doing nothing more nor less than cancelling his insurance against breakdowns and excessive repairs costs.

For many years engineers have been gathering evidence, facts, and figures to show them the strength required in each part of a truck of a given rated capacity, if that truck is to meet normal demands. For example, government tests under impartial observers have been made to determine the impact which takes place when a truck wheel hits a bump under a full load. The results of these tests show that a 3-inch bump may cause an impact of from one to eight times the weight of the wheel and its load, depending on the type of tire equipment, the nature of the impact, and the speed of the truck.

In short, the manufacturer who builds a five-ton truck must of necessity design an axle which can carry not only its share of that five-ton load and the weight of the truck, but which can withstand several times that weight when the truck is running over normally rough roads. That excess strength is exactly the reason why a truck can carry more than its rated load. But it is that same excess strength which insures the operator against troubles when he encounters more than normally severe road conditions—a type of condition the average building material truck meets day in and day out.



Consistent overloading seldom pays dividends. The building material dealer should take every precaution to prevent overloads.

CASHING IN ON TIME SAVINGS

Thus far this Report has discussed the time savings that can be achieved by proper management of present trucks and equipment. During busy periods when trucks are in great demand, the advantages of eliminating this lost time are readily apparent. They may be summed up as follows:

- Time savings enable the building material dealer to step-up his service during rush periods. A few minutes saved here and there are quickly felt in improved service and fewer customer complaints.
- Time savings enable each truck to accomplish more work each day, thereby reducing the cost of deliveries. The more tons, bags, or other units each truck delivers, the lower the cost per unit delivered.
- Time savings enable the dealer to reduce the amount of costly overtime work demanded during rush periods.
- Time savings in large operations help to reduce the number of trucks required in the reserve fleet.
- If the operator is accustomed to hiring trucks to meet peak demands, time savings on his present fleet will help reduce the number of days and hours hired trucks must be operated.

TURNING TIME SAVINGS INTO DOLLARS

On a viaduct job in the South, the truck schedule for one day was as follows:

Truck No.	Trips	Average Trip Time	Total Hours
1	8	1 hr. 2 min.	8 hrs. 16 min.
2	9	50 min.	7 hrs. 30 min.
3	8	59 min.	7 hrs. 52 min.
4	8	1 hour	8 hrs.
5	7	1 hr. 6 min.	7 hrs. 42 min.
6	8	58 min.	7 hrs. 44 min.
7	5	59 min.	4 hrs. 55 min.

A change was made in routing, in the location of the mixer on the job, and in the location of the conveyor at the yard. The changes permitted time savings averaging six minutes per trip. Here is what happened after the changes:

Truck No.	Trips	Average Trip Time	Total Hours
1	8	57 min.	7 hrs. 36 min.
2	11	44 min.	8 hrs. 04 min.
3	9	53 min.	7 hrs. 57 min.
4	9	54 min.	8 hrs. 06 min.
5	8	1 hour	8 hours
6	9	52 min.	7 hrs. 48 min.
7	ELIMINATED		

One less truck on the job means saving dollars. Time savings are profitable.

Each of these possibilities for savings is obvious. But there are even greater possibilities if the dealer operates several trucks. For example, one Ohio Valley dealer who operates 32 dump trucks—a large enough fleet to handle his greatest peak demands—found that yard changes alone enabled him to save an average of 4 minutes out of each hour for every truck in his fleet. On busy days, when he was accustomed to operating as high as 25 and 26 trucks, this time saving amounted to approximately 12 to 14 hours on the entire fleet, or more than a full working day for one truck. After the yard changes had been in effect for a period of 30 days, the dealer sold one regular truck from his dump fleet and another reserve truck which had heretofore been used only part time for emergencies. His total saving on the yard changes came to \$4,693.48 in the course of one year.

Not all dealers, of course, will want to cash in on time savings in this fashion. Indeed, most progressive dealers who find that time savings reduce delivery costs and release extra truck capacity will want to capitalize the opportunity afforded for reaching out to get more business in wider areas.

Time savings mean greater delivered tonnage from each truck, lower cost of deliveries, improved service, and new opportunity for business expansion without demanding new investment for additional truck equipment.

III

ORGANIZING WORK PROFITABLY

THE preceding pages of this Report have emphasized the need for keeping trucks busy in order to make trucks profitable. During rush days and rush seasons, the building material dealer can accomplish this end most successfully by making every effort to eliminate idle time and delays in his delivery operation.

But there are other steps which the building material dealer must take if his truck operation is to be economical and profitable the year round. Most important of these steps are the following:

- Planning to overcome dull period losses
- Planning for profit on each job

The Cost of Enforced Idleness

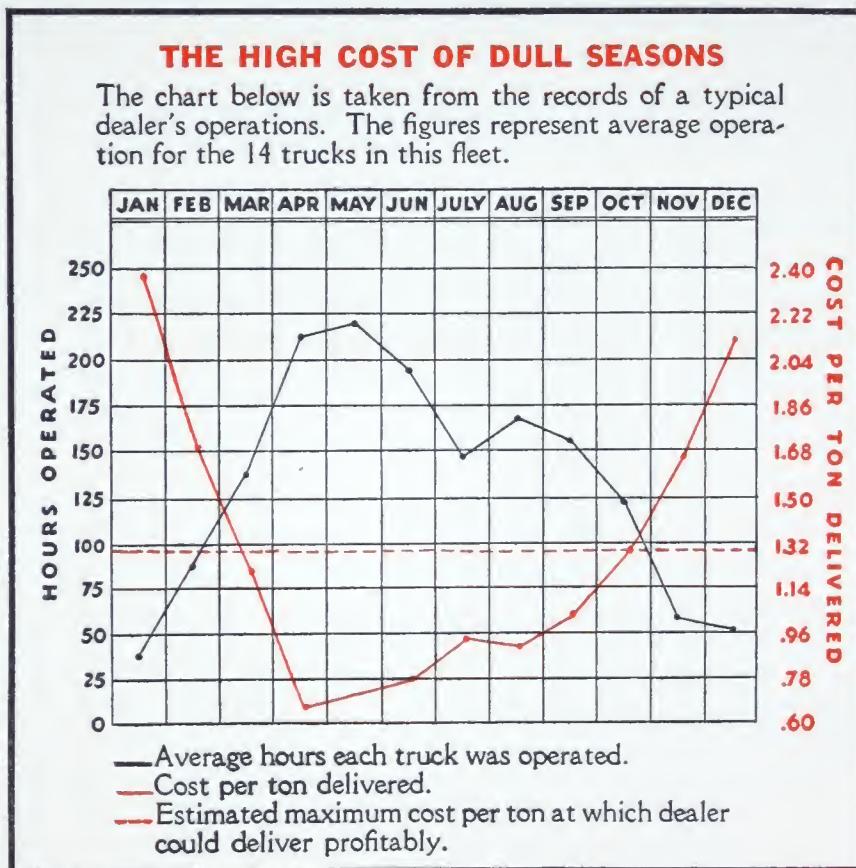
One basic reason for the average building material dealer's high cost of delivery on each ton of materials sold is that his business is highly seasonal. Throughout a major part of the United States, from late November until early March is generally considered unseasonable for building operations. And many building material dealers are inclined to fold their tents and let this 25% of the year slip by unproductively.

Depreciation, licenses, garaging, and the money tied up in truck equipment cost the average operator all the way from one to five dollars a day per truck during this idle period. Clearly, that is a big waste. And only by spreading that cost out over a full year of productive work for the truck can the dealer hope to make his trucks thoroughly profitable.

The entire building industry has found various means to extend the working season, methods that were undreamed of fifteen or twenty years ago. We need only to point out the big strides that have been made in increasing winter building programs in most large cities. There is every reason to believe that another decade will see even greater advances made in this direction.

But these advances can only be made if the entire building industry, led by the building material dealer, will make strenuous efforts to overcome the enforced idleness which is common throughout several months in the present set-up of the business.

Overcoming the cost of the dull business slump is a matter of organizing and planning sales and promotion effort behind the idea of year-round productive work.



PLANNING SALES TO REDUCE IDLENESS

During the investigation which preceded this Report, many dealers were found who were making intensive efforts to overcome dull periods by well-directed sales effort. But not all dealers are pressing this profitable type of activity. And since enforced idleness means loss on truck operation, it is well within the scope of this Report to point out successful methods being used to increase sales volume during these dull periods.

Special Sales Effort

Is Profitable

It is seldom possible for a single building material dealer to make great progress alone in his community in educating consumers to the advantages of winter building. Many dealers, of course, make strong efforts to tie in with national advertisers among the materials manufacturers who are advocating winter building in their publicity. Other dealers are cooperating with local contractors and union groups to put across the winter building idea.

For the most part, however, the dealer can get best results along these lines simply by encouraging an earlier start on the major building job.

Effort of this type is helpful. Every time a prospective home builder can be induced to start the building job earlier in the year, the dealer has done two things: (1) he has created more volume for the late winter months when business is below normal; and (2) he has made his job of meeting peak demands of the late spring months that much easier. Both of these results mean greater profit for the dealer.

Similarly, the dealer who encourages the prospective builder to start the operation in the late summer or fall rather than to wait until spring is building volume for the light fall months and reducing peaks for the spring months.

Advertising and sales effort — built around the “start now” idea for the major building job — is profitable promotion effort for the late winter and early fall seasons.

It is in the small building or remodeling job, however, that the majority of dealers have found the most profitable solution to their dull season slump. Many remodeling jobs can be undertaken in the winter months as well as the summer months. Here are some typical activities along this line which have proved profitable:

- Special campaigns for store front and store interior remodeling. These campaigns are best undertaken in December, with a view to handling the job in January or February. January sales can then be tied in with the remodeling idea, and January or February—normally dull months in general merchandise stores—can be set as the date for handling the job.
- Interior remodeling jobs for homes can be handled in the dull winter season. New woodwork, floors, new wall partitioning, etc., can be handled easily. Major remodeling jobs can be sold to families who are accustomed to winter vacations in warmer climates.
- Farm sales—barns, fences, brooder houses, pens, etc.—should be a profitable activity for the entire fall season, especially in regions where the fall harvest provides a large share of the farmer's income.
- Local advertising campaigns tied in with national efforts on home remodeling are frequently profitable campaigns for fall and winter months.
- Campaigns on insulating jobs and roof jobs are sold most easily in the fall when the approach of winter may spur the buyer to quick action.

Sales effort directed at building up dull seasons is doubly profitable. It provides a normal profit on the jobs sold, and it tends to minimize losses which always are present when men and machinery are idle.

PLANNING WORK FOR IDLE TRUCKS

During this survey, many dealers were found who had developed plans for keeping trucks busy even when the volume of regular building material deliveries could not be brought up to a satisfactory level. In general, their efforts were of three kinds: (1) planning yard and truck maintenance work; (2) developing special dull season lines; (3) undertaking special hauling on contract.

Planning Needed Work for Dull Seasons

When dull seasons offer extra truck time, the dealer's first concern should be to place his trucks and his yard in the best possible condition for handling the work of the coming season profitably. Needed overhauling should be done while trucks are idle—not at the peak of the season when repair work means costly loss of service. The yard should be placed in order and needed changes in yard arrangement—such as were suggested earlier in this Report—should be made. And as the busy season comes on, stocks should be replenished.

All of these activities will usually provide some work both for trucks and men, and at the same time place the dealer in an excellent position to make a greater profit during the coming season. For example, paved roads and fast trucks have made it practical for the dealer to reach out to his sources of supply and save money on incoming shipments by using his own trucks. Woodwork, hardware, paints, cement, and other items can frequently be stocked at lower delivered prices in this way.

Building Dull Season Lines

Many building material dealers, of course, are also coal dealers, and some of these have found it possible to use at least a part of their fleet for both types of deliveries by changing body mountings or by using materials dumps for coal deliveries. But this is not the only type of winter business open to the dealer who wants to take on a winter season line. Firewood for open grates has proven a profitable line for many dealers in recent years. Fertilizers for lawns, gardens, and golf courses offer an early spring line. Bone meal and other stock foods offer a winter line to the rural and semi-rural dealer. The building material dealer should concentrate on finding and adding these seasonal lines.

Placing Trucks in Profitable Work

A number of dealers report that they have found it profitable to hire their trucks out to others whose truck needs are greater during winter months. One such source of income is in hiring out dump trucks to the city or county for snow removal work. Platform stake trucks can be hired out for Christmas season deliveries if equipped with a canopy or canvas to protect the loads. The fact that the dealer has a rail siding convenient for handling almost any type of incoming or outgoing shipment offers another great field of possibilities for signing up dull season hauling.

In hiring trucks out to others, however, the dealer should observe three very important rules:

- 1** Be sure that loads can be handled without overloading or abusing the truck.
- 2** Be sure the truck is driven by a competent, reliable driver—preferably the dealer's own driver.
- 3** Be sure that the rate charged promises a fair profit.

PLANNING FOR PROFIT ON EACH JOB

Organizing truck work to produce a profit means more than simply keeping trucks busy in peak and dull seasons. *It means keeping trucks busy at work which is profitable to the dealer.* In short, the dealer who organizes his truck operation on the most profitable basis is usually the dealer who keeps accurate records of his cost of truck operation as a guide to more profitable operation.

The Real Value of Records

A record of truck operating costs is not an end in itself. Too many dealers have set up operating records simply as a matter of routine bookkeeping with little else in mind than to have a sound bookkeeping system. Records made for that purpose alone are seldom worth while.

On the other hand, records which are used faithfully and constantly to gauge the soundness of operating methods are always valuable records. A figure entered on the books means nothing in itself. But it is likely to mean a great deal if the figure is interpreted in terms of the operating conditions and practices which lie behind it. If the figure shows a loss, some factor or factors in operation have caused the loss. If the figure shows a profit, something has caused the profit. The true usefulness of operating records lies (1) in finding and eliminating those factors which cause loss, and (2) in finding those factors which produce profit and duplicating them as consistently as possible, day in and day out.

Keeping Records That Produce Results

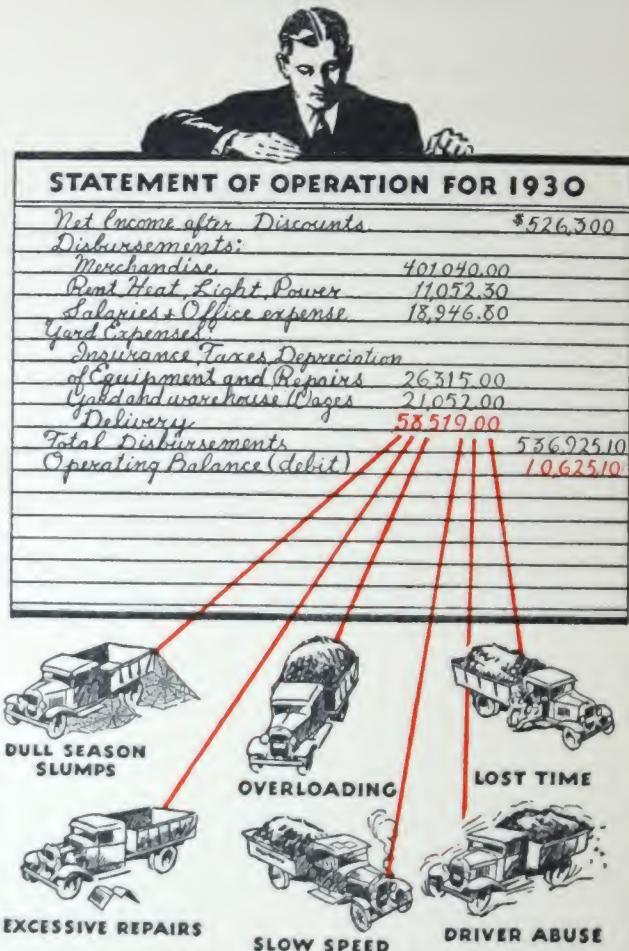
There are countless types of truck record systems—many of them helpful and many of them easily adaptable to the building material dealer's needs. It is not the purpose of this Report to recommend any particular record system. But for the dealer who now uses or is planning to use a record system, it is well to point out a few fundamental requirements of records that are sound and helpful.

On the opposite page are listed a number of these fundamentals. Every dealer should check his own records against this page, thoroughly and carefully. If his own records fall short of any of the requirements shown there, he should weigh carefully the advantages of correcting or changing them.

The most important single point to note about the items listed on the opposite page is the fact that records should show two types of facts:

- 1** A record of work accomplished
- 2** A record of the cost of accomplishing that work

Many dealers who now keep cost records confine them largely to the record of these types of information. Cost information alone is sometimes highly significant, but, as we shall see, the most useful facts are those which bear on both the work accomplished and the cost of accomplishing it.



A PRACTICAL COST RECORD SYSTEM FOR TRUCKS SHOULD—

— Show the following actual costs for each truck on a daily, monthly, and yearly basis:

Fixed Expenses	Running and Maintenance	Salaries and Wages
Depreciation	Gasoline	Drivers
Interest on the investment	Oil	Helpers
Taxes	Maintenance	Supervision and management
Licenses	Repairs (parts and labor)	
Insurance	Washing (labor and supplies)	
Garage rent	Painting	
	Tire Costs	

— Show the following record of work accomplished for each truck on a daily, monthly, and yearly basis:

Tons or other units delivered Miles operated Hours operated

— Show the following indices of profit or loss:

Cost per ton or other unit delivered Cost per mile operated
Cost per unit delivered of each type of commodity handled in the yard

— Be based on four types of records:

- 1 A daily record of fuel, oil, loads, mileage, operating time, and drivers' and helpers' wages. The simplest way to record this information is to have the dispatcher clip together each driver's daily report and his delivery tickets. If the daily report corresponds in general detail to the one shown on page 11 of this Report, the bookkeeper can take from this record (1) mileage, (2) oil put in, (3) gas put in, (4) the number of the truck driven by the driver. If the delivery ticket is similar to the one shown on page 7 of this Report, the bookkeeper can take from the driver's signed slips a record of (1) time and (2) loads.
- 2 A monthly summary for each truck of the points listed above, under item 1.
- 3 An accurate shop record based on time tickets and parts charges, if the dealer has his own shop; or based on itemized statements if the work is done outside. These charges should be carefully assigned to the proper truck when they come in, and should be posted each month together with any overhead, supervision, or management charges arising from the shop.
- 4 An accurate record of all fixed expenses and supervision charges against each truck, to be posted monthly.

— Be studied frequently with these points prominently in mind:

- the work accomplished by each truck and the cost of producing the work
- the possibilities for lowering the cost per mile or per unit delivered by (1) increasing the work output or (2) decreasing costs.

USING COST RECORDS TO ADVANTAGE

The building material dealer who keeps records of the type indicated on the foregoing page has a never-ending source of helpful information—if he will take advantage of it. In too many instances where some form of record system is used, the system becomes simply a formal routine of posting and, therefore, is eventually dropped as “not worth while.”

The big need in the average building material establishment is for some one person to assume the responsibility of interpreting records and carrying out necessary changes made evident by the records. That person must, of necessity, know the factors in truck operation which make for profit and loss—such factors as have been discussed throughout this Report. For example, a careful reading of this Report in the light of what truck records can reveal will yield the following types of information for which sound records are valuable:

- The cost of truck operation or deliveries in relation to other costs and net profit of the business—a guide to revision of prices and operating set-up.
- The cost of delivery for individual items handled by the yard—a key for determining prices and profit possibilities of items handled.
- The nature and extent of delays and idle time on peak days—a guide to adjusting personnel and operating set-up.
- The extent and cost of enforced idleness during dull seasons—a guide to directing sales effort, laying off and employing drivers, and scheduling major repairs.
- The cost of trucks used only for relatively short periods—a key to hiring versus owning trucks to handle peak rushes.
- The cost of repairs on each truck—an indication of (1) driver handling, (2) dependability of the make of truck, (3) suitability of the truck to handle the work assigned to it.
- An accurate record of wages—a key to the profit or loss in the use of helpers.
- The comparative cost of repairs and maintenance done outside and done in the dealer's own shop—a guide to possible savings in repair and maintenance.
- The comparative operating cost of various makes and models of trucks—a guide to sound future buying.
- A record of accident, repair, and other costs—the basis for a profitable driver bonus system.
- A clear picture of the cost of idle time—a guide to the purchase of time-saving yard equipment.
- An accurate picture of the effect of delivery mileage on profits—the key to establishing the limits of the dealer's trading area.
- A record for each truck of repair costs, work accomplished, fuel and oil costs, and other items—each a key to the profit possibilities in buying new equipment to replace old equipment, and a guide to the type of new equipment likely to be most profitable.

These are only the outstanding items revealed by careful interpretation of records. There are many others, each a valuable factor in eliminating losses and increasing profits. Each helps to reduce the cost of the delivery operation, which now constitutes so large a part of the average dealer's total cost of doing business.

Any single activity which constitutes 30% to 50% of the total expense of a business is worthy of accurate cost records and constant watchfulness.

IV

CREATING PROFITS BY SOUND BUYING

THE building material dealer who studies his truck operation along the lines suggested so far in this Report will frequently find that defects and shortcomings of his present truck equipment are in a large measure responsible for losses in his delivery set-up. Slow speed trucks, trucks with poorly designed bodies, trucks which are difficult to drive and maneuver, trucks with high repair expense—these and other factors reduce the amount of work accomplished and increase the cost of getting the work done. Moreover, even when the old truck operates with a fair degree of satisfaction, new designs and new engineering improvements may make investment in new truck equipment desirable from the standpoint of greater profit possibility.

Five Steps in Sound Buying

It is plain, therefore, that the operator of trucks should look upon the buying time as an unusual opportunity for making marked savings in his truck operation. The buying time is the one time at which he can plan to eliminate past losses, and it is the one time that he can take advantage of new engineering developments which spell opportunities for increased profit.

And yet in spite of these very obvious facts, many truck operators look upon buying as a routine matter of replacing old trucks and are largely guided by prejudice, unfounded likes and dislikes, and hearsay. Buying based on haphazard choice of that type will be profitable buying only if luck or chance favor the buyer.

There is only one way to insure a profitable truck purchase — by careful study of all the facts to determine the one truck best suited to handle the work to be done.

Getting a truck or trucks suited to the job to be done involves two important, closely-related steps: (1) Study of defects and shortcomings in present equipment which tend to produce a loss; (2) Study of features to demand in new truck equipment in order to assure a profit. The specific features of truck design which will prove profitable for any one dealer or for any one type of delivery are to some extent dependent on individual conditions. During this investigation, however, special attention was given to finding out those features of design, construction, and performance which dealers felt were highly important to consider in the purchase of new equipment. Two questions were asked of almost every dealer contacted: "What defects of your present equipment lead to losses?" and "What would you look for in new equipment to overcome those losses and get more profitable results?"

Many answers were given to these questions. The points which came up most frequently and were given the most emphasis are shown on the next page. It will pay every dealer—and all those in his organization who take part in truck buying—to study the next page carefully and refer to it when buying new equipment.



Sound truck buying eliminates truck operating losses

FEATURES TO WATCH IN BUYING TRUCKS

The following sources of loss from truck equipment and points to watch in buying new equipment were compiled by summarizing the opinions of many dealers during this survey. Watch these points when buying.

Sources of Loss	SUGGESTIONS FOR SOUND BUYING
Unsuitable capacity	Losses from this source are present in almost every yard. Over-capacity and under-capacity for the hauling to be done both mean a loss. Study records carefully to determine the most frequently occurring load weights for each type of truck, and buy capacities suited to the loads to be hauled.
Body equipment	Dumps that get out of order or require extra time and driver effort; bodies which slow up loading and unloading; bodies which demand extra steps and extra heavy work for the driver—all these mean losses. Before buying, spend at least a few hours studying loading and unloading operations and talking with drivers. Make notes of defects and possible improvements. Then see that the new body is right.
Slow speed	Costly slow speeds may be the result of any number of things—lack of power, obsolete engine design, solid tire equipment, inadequate brakes, or unsuitable gear ratios. Every bit of additional speed that can be gained without sacrificing any degree of safety means time saved and more work accomplished.
Gear ratios	The balance between speed and power output is largely determined by rear axle gear ratios. Ratios designed to give high pulling ability under heavy going also tend to reduce speed. And high speed ratios limit pulling power. Gear ratios should be selected to fit the probable operating conditions of the truck with the best practical balance between speed and pulling ability.
Load distribution	Incorrect body mounting is all too common. Body mounting which throws the weight of the load too far forward or backward taxes tires, makes steering difficult, places a strain on axles and springs, reduces brake efficiency, and otherwise harms the truck. Be sure that bodies are mounted strictly in accordance with specifications supplied by the truck manufacturer.
Cabs	Cabs which become loose and do not afford comfort and protection for the driver tend to lower driver morale. A truck can accomplish only as much work as the driver is willing to do. It pays to keep drivers satisfied.
Axles	Axle breakage is one of the building material dealer's most common and most costly sources of repair loss. Be sure axles are rated and guaranteed to carry the proportion of the load and truck weight distributed over them. Then avoid overloading at all times.
Clutch	Heavy hauling, especially under the extreme conditions frequently encountered by materials trucks, demands dependable clutch performance. Simplicity and sturdiness of design; freedom from plate warping; and tough, durable friction surfaces are desirable. Pedal action should be as stiff as is practical for driving comfort, in order to prevent clutch "riding."
Power output	Power output is important both to good performance and to long life with freedom from costly repairs. The power demanded by different capacities varies, but a sound measure of efficiency for any two trucks of equivalent capacity rating is the horse power per thousand pounds of chassis weight of the truck.

SAVING WITH SPECIAL TYPES OF EQUIPMENT

In addition to studying losses in present equipment, the alert buyer of trucks should always keep in mind the possibilities for savings in buying new types of special equipment designed to save time or increase the work output of his trucks. There are many such types of equipment now being used profitably by building material dealers in all parts of the country. As in buying truck equipment alone, however, such equipment must be purchased only after careful consideration of the job it is to handle and the profit possibilities in its use. Some of the most common types of special equipment and the important factors to note in their application are listed below:

- Trailer equipment has two distinct advantages: (1) Trailers can be "spotted" for loading and unloading operations without tying up costly power equipment. For this reason, many dealers have found two or more trailers with a single tractor or truck afford marked economies in delivering lumber, brick, cement, and other materials, which require considerable time for loading and unloading; (2) Trailers make it possible to carry 100% to 300% greater loads than can be hauled on a truck alone.
Trailer operation should only be considered, however, with these factors in mind: (1) Economical operation of trailers demands reasonably level routes with freedom from extremely hard pulls. (2) Trailer operation should be undertaken only when the factor of limited ability to maneuver a truck and trailer train has been considered. (3) Trailer operation with a view to saving loading and unloading time should be carefully weighed against the cost of using helpers to unload trailers at the point of delivery, when the trailer is spotted.
- Roller-bed bodies for lumber trucks frequently are time and money savers. Loads can be assembled on a yard wagon with roller bed and quickly transferred to trucks when they come in. And in most cases, the entire load can be quickly rolled off at the point of delivery. Roller bodies should be employed, however, only when the truck so equipped will be used only for lumber hauling. Otherwise, the roller bed may prevent economical loading of other materials.
- Three-way dump trucks sometimes save minutes which mount into hours over a period of months or years. The dealer who finds it necessary to deliver frequently to congested districts where turning and unloading is difficult should measure the probable savings in time against the cost of three-way dump equipment.
- Specially designed box dumps for handling face brick quickly and carefully are sometimes advantageous for the brick yard, or for the material dealer who has a large brick volume. Here again, the practical limitation is the fact that the body can best be used for brick hauling and is likely to prove uneconomical for other types of deliveries.
- Ready-mix concrete bodies of several types are available. Manufacturing and delivering ready-mix is a profitable form of new business development for the building material dealer. But it must be remembered that handling ready-mix is just that—a new business which requires a special yard set-up, costly equipment for delivery, and an aggressive sales set-up.

Each of these special types of truck equipment has profit possibilities when properly applied. The important point for the dealer to keep in mind, however, is that the equipment in itself does not assure a profit. The equipment can prove profitable only when it adapts itself for economical use in the dealer's yard, over his routes, and with his particular types of loads.

Sound buying means fitting the equipment to the job to be done. Only when trucks are suited for their work can the dealer hope to make a maximum profit.

A SOUND BUYING PLAN

The building material dealer's investment in truck equipment and his expense of operating it represent too high a percentage of his cost of doing business for truck buying to be based on guesswork. Planned buying is essential.

A review of the pages of this Report will outline such a plan for the dealer. There are three things that every building materials operator should do in putting his truck operation on the most profitable basis:

- 1** *Study his present truck operation in the yard, on the route, and in the shop.*
- 2** *Place present truck operation on an economical basis through time saving, better planning of work, and closer control of costs and work accomplishment.*
- 3** *Select new truck equipment solely on the basis of its suitability for handling his specific delivery problems.*

Future operating profits depend, to a large extent, on the thoroughness with which this buying plan is followed. It is not always easy, however, for the building material dealer to find time to carry out each of these steps. Moreover, his close association with his own daily problems and methods of operation sometimes makes it difficult for him to analyze his delivery problem from an impartial and critical viewpoint. Nor should that be necessary. If the truck manufacturer is primarily interested in providing sound transportation for buyers of his trucks, it is only reasonable that his representative who calls on the building material dealer should assist in making this analysis.

It is well, therefore, to demand of the truck manufacturer's representative a careful study of the delivery problem, based on his knowledge of sound truck operation and on his experience in dealing with many truck operators. Such an analysis, made in cooperation with the dealer and those in charge of his delivery department, should prove to be far more profitable to the truck buyer than time spent with salesmen in interview after interview which throws no real light on specific delivery needs.

SEVEN QUESTIONS TO ASK BEFORE APPROVING ANY PURCHASE OF NEW AUTOMOTIVE EQUIPMENT

- 1** Has the truck representative made a thorough enough study of my present equipment to know its advantages and weaknesses as I see them?
- 2** Have I given him sufficient information for him to make an intelligent recommendation that covers the real needs of my business?
- 3** Have I given him free access to my shop records, and all data vital in getting a true picture of my present costs?
- 4** Has the truck representative made himself familiar with my method of dispatch and record system?
- 5** Has he ridden on my trucks, talked with my drivers, foreman, and superintendent for all possible suggestions for truck improvement?
- 6** How does his recommendation tie in with my real operating needs?
- 7** How do the essential values of his equipment check with the needs he has outlined for my delivery set-up?

A CAREFUL STUDY of your own delivery, along the lines discussed in this Report, will probably reveal facts of real importance to you.

The General Motors Truck Company representative in your locality is at your service. He will gladly assist you in making a careful study of your delivery requirements—without the slightest obligation on your part.

GENERAL MOTORS TRUCK COMPANY
PONTIAC, MICHIGAN

